

LISTING OF THE CLAIMS

Claims 1-13 are pending in the application as follows:

1. (Previously Presented) An active implantable medical device comprising:

means for measuring respiratory activity having an output signal representative of ventilatory activity of the patient;

means for analyzing the ventilatory activity signal and detecting an occurrence of a respiratory apnea and an occurrence of a respiratory hypopnea;

means for measuring a hemodynamic state having an output hemodynamic signal representative of the contractility of the myocardium, means for analyzing the hemodynamic signal and detecting an occurrence of a variation of the contractility;

means for determining whether the detected contractility variation is significant; and

means for conditionally modifying an operating parameter of the device to treat a detected apnea or hypopnea when said detected contractility variation is significant.
2. (Original) The device of claim 1, wherein means for determining whether the contractility variation is significant further comprises means for operating said analyzing means to analyze said hemodynamic signal detected after detection of said apnea or hypopnea.
3. (Original) The device of claim 1, wherein the means for determining whether the contractility variation is significant further comprises means for operating said analyzing means to analyze said hemodynamic signal detected before detection of said apnea or hypopnea.

4. (Original) The device of claim 1, wherein the hemodynamic measuring means further comprises means for measuring an intracardiac impedance.

5. (Previously Presented) The device of claim 1, wherein the hemodynamic measuring means further comprises means for measuring an endocardial acceleration.

6. (Original) The device of claim 1, wherein said operating parameter has a first value and said conditionally modifying means further comprises means for modifying in a temporary manner said operating parameter to a second value different from said first value.

7. (Original) The device of claim 6, wherein said conditionally modifying means further comprises means for restoring said operating parameter to said first value in response to said hemodynamic signal analysis means no longer detecting a variation of myocardium contractility.

8. (Original) The device of claim 1, wherein said operating parameter is a stimulation frequency, and said conditional modification is an increase in response to a detected significant variation and a detected apnea or hypopnea.

9. (Original) The device of claim 1, wherein said operating parameter is an atrio-ventricular delay and said conditional modification is a shortened delay in relation to a detected significant variation and a detected apnea or hypopnea.

10. (Original) The device of claim 1, wherein said device further comprises means for stimulating a patient's heart having at least a first stimulation mode for delivering a multisite stimulation, wherein said operating parameter is a mode of cardiac stimulation, and said conditional modification comprises means for operating said stimulation means to trigger a multisite stimulation in relation to said detected significant variation and a detected apnea or hypopnea.

11. (Original) The device of claim 2, wherein the hemodynamic signal analyzing means further comprises means for comparing a first hemodynamic signal measured during a cardiac cycle following the respiratory cycle during which the apnea or hypopnea was detected, with an average of the hemodynamic signals acquired prior to said respiratory cycle.

12. (Original) The device of claim 2, wherein the hemodynamic signal analyzing means further comprises means for comparing a first hemodynamic signal measured after a plurality of cardiac cycles following the respiratory cycle during which the apnea or hypopnea was detected with an average of the hemodynamic signals acquired prior to said respiratory cycle during which the apnea or hypopnea was detected.

13. (Previously Presented) The device of claim 1, wherein said device further comprises means for comparing a detected contractility variation to a reference threshold, and determining a significant variation in response to said contractility variation being greater than said threshold.